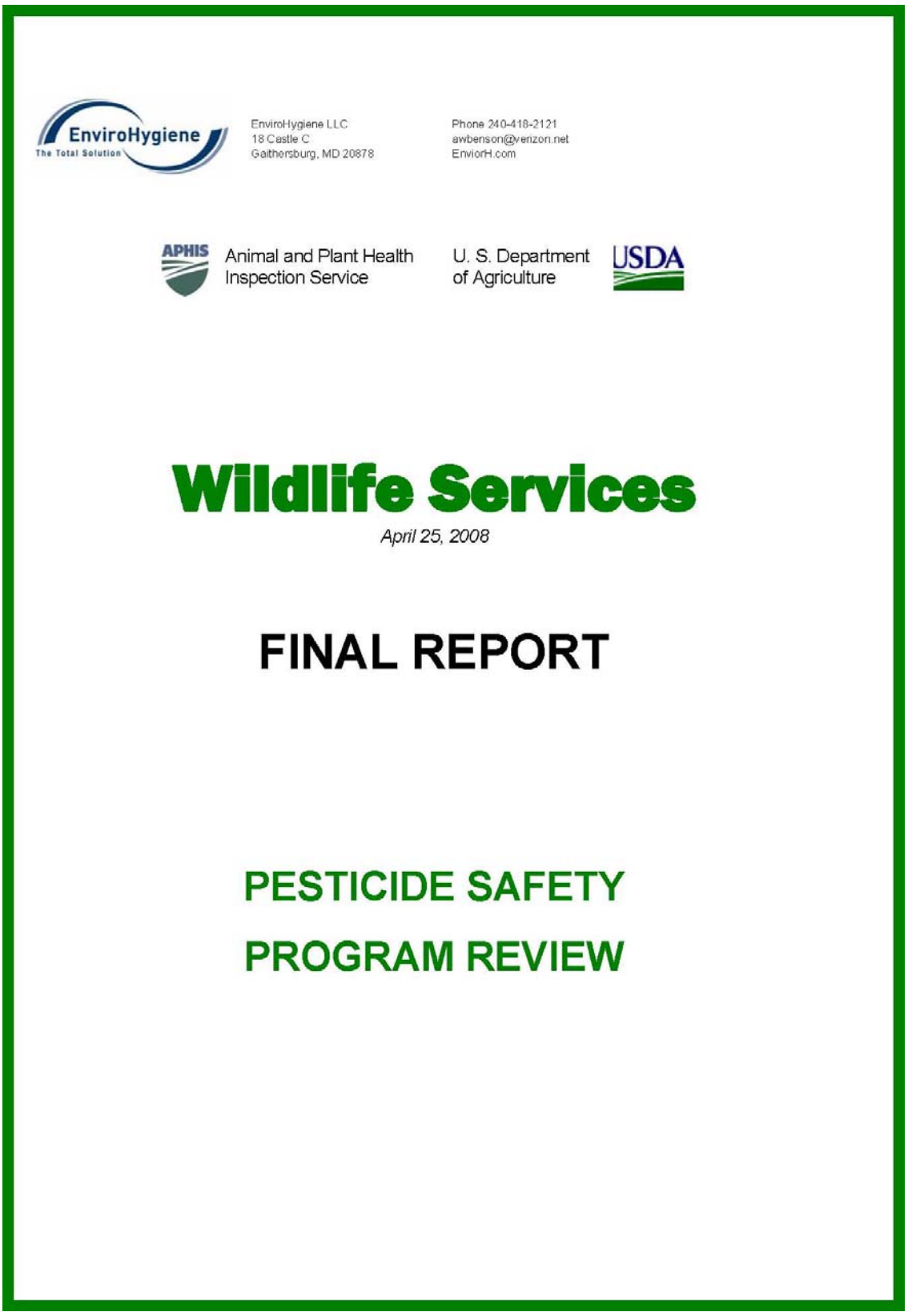
Pesticides Safety Report



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1 Introduction

The U.S. Public Health Service (USPHS), Federal Occupational Health Services (FOHS), Environmental Health (EH) Program was contracted to perform a Comprehensive Pesticide Safety Review for the U.S. Department of Agriculture (USDA), Animal & Plant Health Inspection Service (APHIS), Wildlife Services (WS). FOH contracted with Mr. Arthur W. (Bill) Benson, EnviroHygiene LLC to provide these services through an Interagency Agreement established between FOH and APHIS in accordance with the Statement of Work (SOW) developed for the project. The SOW task objectives included to:

- review applicable WS Directives from a safety perspective,
- evaluate the safety Program Administration,
- evaluate current training,
- review WS accidents occurring between 2002 through 2007,
- evaluate the WS program culture, and will
- conduct four site visits.

EnviroHygiene LLC submitted a draft report to Mr. Jeff Jones, WS Technical Representative on March 1, 2008. This final report reflects appropriate format changes adopted from Mr. Jones' comments.

Site-Visit Methodology

EnviroHygiene LLC developed a Pesticide Safety Review Planning Tool (Appendix A-1) and received approval to proceed from Jeffery Jones, WS Technical Contact. Subsequently, EnviroHygiene LLC developed a Site Visit Screening Tool Sheet (Appendix A-2) and sent copies to the participating State Directors, prior to the site visit. The purpose of developing this checklist was to gather information before the site visits, to

inform the State Directors of the scope and purpose of the site visits, and convey what documents would be evaluated.

WS Directives' Review Audit Checklists (Appendix A-3) were developed and used on the site visits to determine the level of compliance with current WS Directives.

State Regulatory Contacts (Appendix A-4) and applicable State regulations were reviewed before the actual site visits and State Audit Checklists were developed.

Upon completion of each site visit a site visit summary draft report was written. If trends were determined to be prevalent in the site visit reports, they were included in this report's recommendation sections.

2 Scope

This report is limited to the review of the WS-provided Directives; information derived from four site visits, district offices at all four states, and several residential storage sites; accident reports; and other information provided by Mr. Jeff Jones, WS Technical Representative. The on-site information collection process focused on three potential areas of current and historical data. These areas were: 1) written records and files; 2) real property inspections; and 3) personnel interviews. The information sources are briefly described below.

1. Written Records and Files: Existing written records provided by the on-site APHIS administrative point of contact were quickly reviewed and copied for later evaluation.

2. Real Property Inspections: Physical inspections were performed under escort of WS representatives. This inspection process included an internal and external examination of each building and pesticide storage area, as well as the general grounds of the facility. The inspection results were recorded on the audit inspection forms.

3. Personnel Interviews: In-depth and/or topically-specific interviews with WS personnel were conducted over the course of the site visit. Personnel who work in concert with WS employees were also interviewed.

Information from external regulatory sources and off-site reconnaissance surveys were also collected during the course of the site visit. City, County, and State records and personnel that were thought to have, or be able to provide relevant information regarding the review were identified and consulted.

3 Executive Summary

The following program improvement recommendations are summarized and prioritized with the number one (1) being the most significant:

1. It is critical that the M-44 mechanisms be easily and thoroughly cleaned to prevent accidental injector activation. The newer type of mechanisms (Type 4 produced 2002 to present – no bottom crimp; a retaining pin holds plunger and ejector spring in place—the pin permits field disassembly for cleaning, lubrication or replacement of inner parts) should be used. The district supervisors should examine all M-44 devices in the applicator's possession, identify the old-type devices for recycling, and ensure the policy states that only new mechanisms are to be used. In addition, the cleaning technique of using vinegar and water to clean the mechanisms mentioned in section 4, page 12 or this document should be further evaluated.

2. The accident investigation program should be strengthened to provide an accurate assessment of a significant event, so that adequate preventive methods can be implemented to prevent any recurrence. Those significant events must be first identified as significant, then reported to the appropriate authority in an expeditious manner, and finally, investigated as close as possible to the time of occurrence. Significant events must be elevated up the management structure to ensure that an unbiased, professional evaluation can be conducted.

3. All applicators must carry at least one quart of water, coveralls (they could be one-use, disposable overalls), a towel, and soap in case the applicator splashes some pesticide on themselves, especially in their eyes.

4. Produce several short, pesticide specific, i.e., M-44, LPC 1080, DRC-1339, safety training programs that can be placed on the WS Intranet and be copied to a DVD for distribution to remote locations not having high-speed internet service.

5. Pesticide storage should be clearly defined in the directives as incidental, small, or large. Incidental storage areas should not be defined as pesticide storage areas with regard to inspections, storage requirements, and other items mentioned in any directives.

The table in section 3.1.1 below is a summary of observations, findings and recommendations identified during the 2008 WS Pesticide Program Review. Many of the positive findings are difficult to articulate unless you have visited the various locations and experienced the dedication and commitment of the pesticide applicators and their supervisors.

The WS commitment to a safe workplace was clearly evident while conducting these non-bias, third-party reviews. The safety reviews that were conducted clearly revealed their commitment to continued improvement through personal evaluations and inspections.

The individual state authorities are charged with administrating and enforcing state pesticide programs. The WS applicators are state-certified, and when the WS State Office sells pesticides, they have the required, up-to-date, state Dealer's Licenses at all locations where pesticides are sold.

Inspection reports for the states where the site visits were conducted revealed how seriously the WS takes pesticide safety. There were no warnings, or notice of violations, during the state-preformed annual inspections for the past five years at any of the locations inspected.

The findings of the pesticide safety review are listed below:

- 15 positive findings,
- 0 (zero) level 1 findings that indicate noncompliance with Federal and State regulations,
- 1 (one) level 2 finding that indicates compliance with Federal and State regulations, but non-compliance with WS directive(s),
- 18 level 3 findings that indicate non conformance with industry standards, best management practices.

- 11 level 4 findings that are purely recommendations for program improvement.

3.1 Executive Summary Table

The following table depicts the site visit results by categorizing the summary into four basic categories:

- Level 1 – results are in noncompliance of Federal or State regulations.
- Level 2 – results are in compliance with Federal and State regulations, but do not comply with WS Directives.
- Level 3 – results are in compliance with Federal and State regulations, and WS Directives, but the recommendations made are considered to be Best Management Practices (BMP) and follow industry standards.
- Level 4 – results are in compliance with Federal and State regulations, and WS Directives, but recommendations were made.
- Positive (P) – findings that illustrate positive, proactive approaches to safety and that demonstrate continued improvement processes.

TABLE 3.1.1

Description	1	2	3	4	P
4.1.1. Strong policy statement in Directive states that WS will adhere to all Federal and State regulations.					X
4.1.1. Policy statement lacks specificity regarding continual improvement, safety and environmental impacts and aspects, etc.			X		
4.1.2. Storage requirements in the directive are far more stringent than required by regulation.					X
4.1.2 Storage requirements do not differentiate bulk storage, small storage, or incidental storage.				X	
4.1.2. The directive does not require up-to-date MSDS and labels.			X		
4.1.2. Some records and forms were old and out-dated.			X		

TABLE 3.1.1 Description	1	2	3	4	P
4.1.2 The directive does not differentiate between a significant event and a minor event.			X		
4.1.2. The responsible individual for performing inspections is not identified in Directive.			X		
4.1.2. The applicator should carry a decontamination kit with extra clothing in his/her vehicle.			X		
4.1.3 Clear, concise, and direct instructions to address actions to be taken if an accident happens.					X
4.1.3 Equipment is purchased, i.e., GPS, laser measuring device, to ensure requirements of directives are followed.					X
4.1.3. New applicators go through a rigorous on-the-job training program and are not permitted to apply devices until they are judged competent.					X
4.1.3. Applicators seek ways to improve on cleaning methods for M-44 devices.					x
4.1.3. The directive lacks specificity in training.				X	
4.1.3. Training forms are antiquated and need revised.			X		
4.1.3. Revise directive to insure applicators have GPS and are required to use it.				X	
4.1.3. Revise the directive to state the dangers associated with sodium cyanide.				X	
4.1.3. Old-style M-44 devices should be scrapped and only the newer, easier to clean, devices should be used.			X		
4.1.4. The Technical Bulletin is complete and concise, and the directive informs the reader how to get a copy.					X
4.1.4. The directive should state the hazards associated with sodium fluoroacetate.			X		
4.1.4. Update the LPC 1040 training form.			X		
4.1.4 Request the manufacturer of LPC 1080 to make the identification number permanent.			X		
4.1.5 The directive follows established management systems practices to ensure accurate inventories are conducted and recorded.					X
4.1.5 The directive specifying quality assurance/quality control requirements are excessive and confusing.			X		
4.1.6 The directive is clear and concise when it comes to reporting unsafe conditions and placing the responsibility for identifying hazards prior to work assignments on supervisors.					X

TABLE 3.1.1 Description	1	2	3	4	P
4.1.6 Employees are provided wallet cards that clearly tell the physician that they may have been exposed to a serious disease, and then lists the diseases.					X
4.1.6 Employees are provided with a very proactive OMMP, if they choose to participate.					X
4.1.6 The directive should be more specific to the requirements as they relate to pesticide applicators and the use of PPE.				X	
4.2.1 All State Directors and District Supervisors were cooperative and provided any information requested. They all knew their jobs and always displayed a diligent, professional demeanor. They take their responsibilities for pesticide safety, security, storage, and accountability seriously. During the site visits not one discrepancy was noted nor was there any warning or notice of violation issued for the past five years during State inspections.					X
4.2.1 The District Supervisors are required to do too much paperwork and formal inspections. Their time would be better spent performing surprise inspections on applicators to make sure they are adhering to the pesticide label requirements and are wearing appropriate PPE.				X	
4.3.1 All pesticide applicators are state-certified.					X
4.3.2 Specialized training, even though it is given, lacks up-to-date documentation and no comprehensive training plan exists.			X		
4.3.2 Produce short videos for specialized training.				X	
4.3.2 Develop a written training plan that can be shared by all State Directors.				X	
4.4.1 Site visit interviews revealed that no accidental pesticide exposure had occurred.					X
4.4.2 Develop a system where severe accidents can be identified and reported to SHEWB so that an in-depth accident investigation can be conducted and documented. Share the causation factors with the WS community and describe methods to prevent recurrence.			X		
4.5.1 During the site visits, every applicator questioned, without exception, demonstrated their commitment to safety by continually describing location of PPE, application records, pesticide inventory locations, MSDS and labels. They clearly knew what was expected of them and they were knowledgeable of the various requirements.					X

TABLE 3.1.1 Description	1	2	3	4	P
4.5.2 Applicators are taught that the pesticide label is law. They can incorrectly assume that if the label does not require PPE, then they are safe not to use PPE in all circumstances.			X		
4.5.3 The pesticide labels from the Pocatello Supply Depot do not mention the use of PPE or other safety requirements. They may require updating.			X		
5.1 One site visit revealed that only one inspection had been conducted within a year, instead of the two required by the APHIS Safety Manual.		X			
5.1 The CMITS system and Instruction Manual requires improvements and updating. This is a recommendation and it is important to note the tremendous amount of resources required for this monumental effort.				X	
5.3 Distribute NFPA 704 fact sheet explaining use of signs with specific information on hazard categories directly correlated to specific pesticides used by WS.				X	
5.4 Annually review pesticide stocks and use for other regulatory requirements.			X		
5.5 Compose PPE fact sheets that are directly related to a specific pesticide, identifying specific PPE to be worn, i.e., DRC 1339, N-95 respirator, eye protection, and heavy rubber gloves when mixing. N-95 particulate respirator requires fit-testing.				X	
5.6 Update Pocatello Supply Depot pesticide MSDS in accordance with ANSI Z400.1-1993 standards.			X		
TOTALS	**0**	**1**	**18**	**11**	**15**

4 Evaluation Objectives

4.1. Review of WS Directives

The following evaluation and recommendations are based on sound safety and environmental management concepts established by several standards organizations and government agencies as identified in Appendix B, Authorities and References.

The International Organization for Standardization (ISO), 19000/19001, *Occupational Health and Safety Management Systems*, ISO 14000/14001, *Environmental Management Systems*, and ISO 9001, *Quality Management System* were used in conjunction with the regulatory authorities, to provide both a regulatory and management approach to review the WS' Directives. The aforementioned management tools are similarly structured in a four-part process: 1) PLAN: develop a safety and environmental policy and plan for implementation; 2) DO: implement the plan; 3) CHECK: build reliable metrics to ensure a credible evaluation process; and 4) ACT: determine metric results and establish a management review progress.

4.1.1. Directive 2.210, Compliance with Federal, State, and Local Laws and Regulations, 03/01/04

4.1.1.1. Strength(s)

It is an extremely positive sign when a Deputy Administrator, the top executive in the WS, issues a policy commitment to follow all Federal and State regulations. Issuing a signed policy statement by the senior official is the first part in implementing a strong integrated Safety and Environmental Management System (SEMS). This action clearly demonstrates the commitment and sponsorship of top management to ensure that WS employees are aware of their regulatory responsibilities.

4.1.1.2. Weakness(es)

The weakness in this policy commitment is that it lacks specificity regarding the WS mission and how it relates to its activities, its safety and environmental impacts and aspects, and it lacks a statement illustrating a commitment to continued improvement.

According to ISO standards, these components are necessary to establish an integrated SEMS policy statement.

4.1.1.3. Recommendation(s) and Observation(s)

Observation

The WS directive could be used to issue a strong policy statement. Revise the current directive to reflect the changes mentioned in the aforementioned weaknesses section.

The following draft Policy Statement could be used as a starting point for these revisions:

It is WS Policy to have all its employees committed to strict compliance with all Federal, State, and local safety and environmental regulations. There are no exceptions unless variances are approved by the regulating authorities.

Supervisors will take immediate action to evaluate mission activities and determine any impact they have on the safety and the environment. Once the recommended actions are identified, supervisors must make every effort to minimize the impacts.

Supervisors will ensure that all regulatory requirements under their purview are identified and that their employees are adequately trained to ensure a safe and environmentally sound working environment.

Supervisors will immediately evaluate all new mission tasks for safety and environmental compliance before the task is implemented. All recurring tasks will be evaluated annually for regulatory adherence.

The Office of Staff Services will review this Policy annually and send its recommendations for improvement, if any, to the current WS Director by December 31 of each year.

4.1.2. Directive 2.410, Pesticide Use, 1/02/08

4.1.2.1. Strength(s)

4.1.2.1.1 Storage: The storage requirements in this directive are far more stringent than current regulations require. The requirements required by this directive are generally

applicable for bulk pesticide storage buildings/areas. Most state regulations and National Fire Protection Association (National Fire Code) 434 define bulk pesticide storage as the storage of pesticides in quantities of greater than 55 U.S. gallons liquid measure or 100 pounds net dry weight. Most WS storage locations do not meet this "bulk pesticide storage" definition.

The Armed Forces Pest Management Board, Technical Guide No. 7, *Installation Pesticide Security,* recommends a 7 ft. fence around facilities. However, the guide refers the reader to the Armed Forces Pest Management Board, Technical Guide No. 17, *Design of Pest Management Facilities*, which states that "the fence may be omitted if other security measures are taken." WS has taken those extra security measures by installing monitored security systems containing motion, glass-break detectors, and circuit-breaker intrusion alarms. In addition, WS has provided flammable storage cabinets with key locked, three-point latching doors. These cabinets also come with secondary containment and are fire rated. For most of the central storage/distribution areas, the pesticides are located in a triple latched, keyed, fire-rated flammable liquid storage locker, inside a locked storage area, providing double security. During the prescribed site visits, all the central storage areas had a minimum of a 6 foot fence around the entire facility and some even had guard service. Video surveillance and video taping were also available at all sites that were visited. This author was a professional fire-fighter for 24 years and knows that one of the easiest securities to breach is a locked fence gate. A pair of simple bolt cutters permits easy access through the gate. However, one of the most difficult areas to breach is an area protected by a strong, metal, three-latch, flammable liquid storage cabinet. Because of the construction of the cabinets the weight minimizes the possibility of theft. All of the aforementioned security methods mentioned clearly demonstrate WS management's commitment to the security of the stored pesticides.

Note: The Technical Guide No. 17 stipulates (in all capital letters) that the handbook shall not be used…as a checklist for inspection of **existing** facilities.

4.1.2.1.2 Material Safety Data Sheets (MSDS): The directive requires that MSDS and pesticide labels must be provided to all WS personnel or other potential users. This

clearly demonstrates the importance of these documents and WS's commitment to adhere strictly to the current Federal and State regulations.

4.1.2.1.3 Recordkeeping: The directive requires that the application information be recorded within 30 days following the application and that the documentation be kept for at least two years. All WS sites that EnviroHygiene LLC visited, immediately recorded information at the time of application and all application records were available for examination. Furthermore, in all instances, all application records were being maintained at the various sites and could be quickly located by applicators and District Supervisors.

4.1.2.1.4 Pesticide Illness, Injury, or Damage Reporting: WS requires all accidents involving pesticides to be immediately reported to the supervisor and State Director and requires the use of WS Form 160 (2007) and WS Form 160A (2007) to document these accidents. The forms standardize accident reporting while still providing the specificity required by professional accident investigators. The forms serve to document the incident in sufficient detail to allow the Safety, Health, and Employee Wellness Branch (SHEWB) to determine if further investigation is required.

4.1.2.1.5 Inspections: Formal, documented inspections are required a minimum of twice a year at central storage/distribution sites using an APHIS Safety Inspection Checklist. This ensures that the central storage/distribution sites are in compliance with code, and that the directive is being followed.

4.1.2.2. Weakness(es)

4.1.2.2.1 Storage: The WS storage requirement does not differentiate bulk storage from small quantity storage. Small quantities of pesticides are stored using the much stricter bulk pesticide storage requirements.

4.1.2.2.2 MSDS: The directive does not require up-to-date (the most current MSDS and pesticide labels) be provided to all WS personnel or other potential users.

4.1.2.2.3 Recordkeeping: Some of the applications were outdated and had not been recently evaluated for compliance with current law. However, it should be noted that all

site application records did contain all the information required by the directive, and Federal and State Regulations.

The directive states that records will be checked by Headquarters staff and with periodic spot checks by designated officials. This statement lacks clarity relative to frequency and accountability.

4.1.2.2.4 Pesticide Illness, Injury, or Damage Reporting: The directive does not differentiate between a significant event which will require follow-up investigations by SHEWB personnel and a minor event, which will not require a follow-up investigation.

4.1.2.2.5 Inspections: The person(s) responsible for performing the inspections at the central storage/distribution sites are not identified.

4.1.2.3. Recommendation(s) and Observation(s)

Recommendation

4.1.2.3.1. Storage: Pesticide storage should be defined as incidental, small, or large. Incidental storage areas should not be defined as pesticide storage areas with regard to inspections, storage requirements, and other items mentioned in this directive.

Incidental storage sites should be defined as containing less than five pounds (lbs.) of solid, or less than one gallon of liquid pesticide, and not containing any quantity of restricted-use pesticides.

Small quantity storage areas should be defined as exceeding the requirements of an incidental storage site, but not exceeding 55 gallons of liquid, nor 100 lbs. of net solid.

Large quantity storage areas (bulk storage) should be defined as storage areas that contain over 55 gallons of liquid or 100 lbs. of net solid material.

By identifying the quantity and type of storage area, a risk analysis of requirements based on the actual risk can be performed rather than on an assumption within the WS organization.

The following example is a direct result of my site visits. One of the State Offices central storage/distribution area would have been considered incidental storage,

because of the limited quantity of supply kept on site, however, the District storage site would have been considered a small-quantity site. In comparison, another State Office did not store pesticides at its office. Therefore, it would not be considered a storage site. Rather, the State Office (also a District office in this state) had a central storage/distribution area remotely located that would be considered a Large-Quantity Storage Site. This change would clarify the risk to people and the environment.

The "General Storage Requirements" section of the directive should require that storage sites are sufficiently separated from water sources. Pesticide storage areas should not be located near streams, rivers, potable drinking water wells, or well-head protection zones. This is especially true in several states having well-head protection zones.

By evaluating the quantity of pesticides and type of pesticides stored, WS should implement a procurement system over a 10 year period to identify large-quantity storage areas that provide the safest, most secure storage buildings available. Outdoor chemical storage buildings should be provided for large-quantity storage site locations.

The NFPA defines outdoor chemical storage buildings as "a prefabricated structure, manufactured primarily at a site other than the final location of the structure, and transported completely assembled or in ready-to-use means of providing storage and secondary containment for hazardous materials without having to resort to building a new permanent structure." The type of material stored will dictate what requirements are necessary. Example: If the building is not being used to store flammable **liquids**, explosion-proof lighting (and other explosion-proof fixtures, i.e., heater, air conditioning, etc.) are not needed. However, one option available for these buildings is fire protection. The following describes a perfect option for buildings storing aluminum phosphide. A dry-chemical suppression system instead of a sprinkler system would be advisable since aluminum phosphide emits toxic gases if it comes into contact with water.

In the following paragraphs, I am using literature from Safety Storage Inc., with their permission. They are one of several GSA contractors that provide these buildings. This should in no way be construed as an endorsement of one company over another.

The information and photographs are provided as examples only. Federal Acquisition Regulations must be followed for the procurement of any such storage building.

The following photograph is an example of an outdoor chemical storage building.

OPTIONAL EQUIPMENT AND ACCESSORIES (PARTIAL LIST)

- Lighting*
- Heating*
- Air conditioning*
- Refrigeration*
- Dry chemical fire suppression systems
- Liquid level detection systems*
- Gas sensor modules*
- Audible and visible alarms*
- Digital readout controller
- Secondary containment shelving
- Separation walls
- Compressed gas cylinder storage racks
- Electromechanical exhaust ventilation systems*
- Explosion relief construction
- Roll-up doors
- Stainless steel linings**
- Safety eye wash and emergency shower
- Insulation
- Loading ramps
- Fiberglass floor grating
- Chemical resistant sump liners

*Explosion proof and non-explosion proof available.
**Stainless steel lining on interior walls and/or ceiling recommended when corrosive materials are dispensed inside building.

Air conditioner with control panel; audible alarm and enclosure for dry chemical fire suppression system; alarms for liquid level detection and temperature sensing devices; relay enclosures; junction boxes; and load center. Also includes an alarm test panel to ensure proper notification system operation.

- **A** Explosion-proof convection heater
- **B** Gas cylinder racks
- **C** Fume hood and sink
- **D** Air conditioning
- **E** Secondary containment shelving
- **F** Galvanized steel grating
- **G** Explosion vent panel
- **H** Explosion-proof lighting fixture
- **I** Gas sensor and dry chemical nozzle
- **J** Explosion-proof fan forced heater
- **K** Secondary containment shelving with air conditioner
- **L** Fiberglass floor grating
- **M** Bridge crane with drum lifter
- **N** Emergency safety shower with eye wash

The benefits of purchasing the aforementioned storage buildings are significant. The buildings are built to comply with numerous codes including EPA 40 CFR, OSHA 29 CFR 1910, NFPA 30 and 70, and UFC Article 79 and 80. The buildings are approved by the Underwriter's Laboratories (UL) and have a Factory Mutual (FM) Approval. They can be insulated for temperature control and limit energy consumption, which can be extremely beneficial in some geographical areas. An additional benefit is the ability to move these buildings when locations change or missions change. **Although these buildings are not designed for incidental and small quantity storage of pesticides they can be used for those purposes.**

Observations

4.1.2.3.2. MSDS: The State Director should assign a responsible employee to annually review the State's office files and make sure the most current MSDS, pesticide label and other material are at each of the District and State Offices and in each vehicle transporting pesticides. Any out-of-date materials should be disposed of or recycled.

4.1.2.3.3 Recordkeeping: Each State Director should assign an employee to evaluate the application records to ensure that the required information is included in the particular application records. Since some states require additional information than others, most of the required information is similar. The states should send all their application records to the OSS for examination so a comparison can be done to determine if standardization is possible.

A record evaluation schedule, based on past performance, complexity of operation, and the quantities and the type of pesticides used, should be implemented. OSS should coordinate this effort but does not necessarily have to perform the actual evaluations.

Recommendation

4.1.2.3.4 Pesticide Illness, Injury, or Damage Reporting: The directive should require that in significant events, the completed forms must also be sent to SHEWB to determine if further investigation is required. Significant events can be defined as those events requiring employees to miss three or more days of work, those accidents

requiring long-term medical attention, or those events in which one or more people are killed. However, any event involving a none-WS employee is considered significant. Regardless of the severity of an accident, follow-up investigations can assist in preventing future accidents although staff-hours and other resources might limit the ability to perform a follow-up on every accident. Ideally, even property damage accidents and near-miss incidents should be reported and investigated. Before this recommendation is considered, SHEWB should be consulted to determine if it can be accomplished with its limited resources.

Observation

4.1.2.3.5 Inspections: Instead of using the APHIS Safety Inspection Checklist to inspect the central storage/distribution areas, SHEWB should be consulted to see if it is willing to accept Enclosure 1, Self-Inspection Checklist for Residential Storage Sites For Pesticides, Pyrotechnics, Rocket Net Charges and/or Incidental Explosive Materials, which is far more suited to WS-specific storage inspection requirements. If so, remove the word "Residential."

On November 20, 2007 the Department of Homeland Security (DHS) published the final Appendix A in the *Federal Register*. With the publication of a final Appendix A, all provisions of 6 CFR Part 27, including § 27.210(a)(1)(i), are operative and in effect. The deadline in the Chemical Facilities Anti-Terrorism Standard (CFATS) interim final rule for submission of "Top Screens" required by 6 CFR § 27.210(a)(1)(i) is 60 calendar days from the date of publication of Appendix A in the Federal Register, i.e., November 20, 2007.

Several pesticides that WS uses are identified as Chemicals of Interest (COI) and may require registration and completion of a web-based Chemical Security Assessment Tool. During the site visits certain pesticide stocks were identified for possible registration. These pesticides include Fumitoxin, gas cartridges, and sodium cyanide (M-44). It is unlikely that the gas cartridges (400 lbs. at one storage area) or sodium cyanide (1001 lbs. at one storage site) would require registering the facility. Fumitoxin is made up largely of aluminum phosphide, which requires placarding

according to the Hazardous Material Transportation Act (HMTA) and therefore requires that the facility register with DHS.

The DHS requires the CFATS registration of zinc and aluminum phosphide pesticides in any quantity because any amount of this pesticide being transported along public highways must be placarded in transportation. The manufacturer and WS have an exemption to the placarding requirement. The special exemption permits transporters of limited quantities of Fumitoxin to do so without placarding vehicles as is normally required under the HMTA.

WS should write a letter to DHS requesting an exemption from the CFATS registration process based upon the DOT Special Exemption 10753 (tenth revision), expiration date June 30, 2010, dated July 10, 2006, afforded to Pestcon Systems, Inc., the manufacturer of Fumitoxin. Another document that can be used to affirm WS position, is Dated December 21, 2007 from Robert B. Stephan, Assistant Secretary, DHS. An email confirmation is all that is required. The DHS Compliance Security Compliance Division can be emailed at dennis.deziel@dhs.gov. The aforementioned letter from DHS is located at the end of this section.

Recommendation

4.1.2.3.6. Carry Decontamination Kit in Pesticide Applicator's Vehicles: The WPS requires that all applicators carry at least one quart of water, coveralls (they could be one-use, disposable overalls), a towel, and soap in case the applicator splashes some pesticide on themselves, especially in their eyes. The WPS exempts vertebrate animal's pesticide applications from its requirements. However, this particular requirement could be extremely beneficial to WS pesticide applicators and is highly recommended to be included in the directive.

4.1.3. Directive 2.415, M-44 Use and Restrictions, 2/18/04

4.1.3.1. Strength(s)

The major strength of this directive is the clear, concise, and direct approach of the requirements for use and what immediate action should be taken if a toxic or adverse event happens. Supervisors of M-44 applicators have provided additional

equipment and direction to ensure the accuracy of placement of injectors. Equipment includes laser distance finders to ensure that injectors are placed appropriate distances from structures, roadways, and water sources. Global positioning satellite receivers are provided to applicators to ensure appropriate locations are noted on application records and to ensure that if something were to happen to the applicator, someone else could immediately retrieve the devices. New applicators are rigorously trained in M-44 use, must sign a document which contains the class criteria, and are not permitted to apply devices alone until cleared as a "competent M-44" applicator by another applicator (usually a District Supervisor) that has performed M-44 applications alone for at least two years.

A WS state-certified applicator interviewed at one of the state visits uses a water and vinegar mix to clean the M-44 device mechanism and has had very good results. The single biggest problem associated with this device is accidental activation. By keeping these devices extremely clean, it drastically reduces the possibility of an accidental activation. The newer devices have the capability of being easily disassembled to facilitate cleaning.

4.1.3.2. Weakness(es)

Applicators are sufficiently trained in M-44 use. However, no mention of training is in the directive. Applicators are provided extra equipment (as mentioned above), however, no mention of it is in the directive. In addition, training forms are antiquated and require revision. Although safety is included in the training there is no mention of safety in the directive.

4.1.3.3. Recommendation(s) and Observation(s)

Observation

The policy could be revised to ensure GPS receivers and laser distance finders are provided to all M-44 applicators in case the states not covered in the review do not have these devices. Insert a paragraph dedicated to training, identifying what is already done – see above – strength(s). In addition, update the training form (currently an ADC Form). Make it policy to use a GPS to accurately mark locations of all M-44's.

An entire paragraph should be dedicated to the safe use of the pesticides. Knowing that the directive is open to public scrutiny, this inclusion will illustrate the willingness of WS to demonstrate its dedication to "open" community involvement, and at the same time, show that they readily understand the dangers associated with sodium cyanide and are dedicated to handling it safely.

Recommendation

It is critical that the M-44 mechanisms be easily and thoroughly cleaned to prevent accidental injector activation. The newer type of mechanisms (Type 4 produced 2002 to present – no bottom crimp; a retaining pin holds plunger and ejector spring in place—the pin permits field disassembly for cleaning, lubrication or replacement of inner parts) should be used.

The district supervisors should examine all M-44 devices in the applicator's possession, identify the old-type devices for recycling, and ensure the policy states that only new mechanisms are to be used.

Sodium cyanide reacts with acid, oxidizers and heat to form dangerous by-products. Sodium cyanide reacts with both acid (even very weak acid) and water (moisture) to produce hazardous hydrogen cyanide gas. Sodium cyanide readily absorbs carbon dioxide and moisture from the air and deliquesces (to absorb atmospheric water vapor and become liquid). The practice of using vinegar and water to clean the devices should be studied to ensure proper protocols and safe-guards are implemented. The amount of debris left on the injector device may be minimal, even non-existent, but because of the potential severity of the process, it must be closely evaluated. If the evaluation indicates no significant risk, the protocol should be shared with all employees and made part of the Technical Bulletin.

4.1.4. Directive 2.420, Livestock Protection Collars

4.1.4.1. Strength(s)

This directive not only makes policy, it informs applicators, and potential applicators, that they must follow all Federal and State regulations, as well as the "User Instructions and Use Restrictions" contained in the "Technical Bulletin for Sodium

Fluoroacetate," and informs the reader how to obtain copies of this information. The Technical Bulletin is a complete, concise document that informs the user of restrictions and use requirements. All applicators are required to certify that they have read and understand all the provisions of the Technical Bulletin.

4.1.4.2. Weakness(es)

This directive does not state the hazards associated with the active ingredient (sodium fluoroacetate).

4.1.4.3. Recommendation(s) and Observation(s)

Observation

The training form (currently an ADC Form) is out-of-date.

An entire paragraph should be dedicated to the safe use of the pesticide. Knowing that the directive is open to public scrutiny, this inclusion will illustrate the willingness of WS to demonstrate its dedication to "open" community involvement, and at the same time, show that they readily understand the dangers associated with sodium fluoroacetate and are dedicated to handling it safely.

The numbering identification system provided by the manufacturer fades off the collar and requires the applicator to re-paint (or tag in some manner) the collars. Just by the nature of handling the collars less, the applicator's potential of an accidental exposure to sodium fluoroacetate is dramatically reduced. Not often, but sometimes the used collars are damaged by fences, and cactuses and other bushes that may create small pin holes. It should be pointed out that the applicators are concerned about requesting the manufacturer to provide a more permanent marking system. They are concerned that the manufacturer may stop making the devices and the rancher would have one less weapon in his arsenal to fight predatory animals. Their concern may be justified, but it is still advisable to request this action from the manufacturer.

4.1.5. Directive 2.465, Accountability and Oversight of Hazardous Materials

4.1.5.1. Strength(s)

This directive has created a system containing the basic principles of the International Organization for Standardization (ISO), 19000/19001, *Occupational Health*

and Safety Management Systems, ISO 14000/14001, *Environmental Management Systems*, and ISO 9001, *Quality Management Systems*. These principles being: plan, implement, check and recheck on a routine basis. The directive provides certainty (not 100%, but as close as can be obtained) that chemicals will be inventoried and accounted for, thereby assigning responsibility and accountability to various levels of employees throughout the organization.

4.1.5.2. Weakness(es)

The policy is somewhat confusing. The directive requires quarterly and annual physical inventories. However, there are no date deadlines mentioned. A chart similar to the one below in the recommendation(s) section could be used to document the process and deadlines.

The directive requires many steps in a short period of time. The steps could be provided in an easy to read and understandable chart similar to the one below in the recommendation(s) section.

4.1.5.3. Recommendation(s) and Observation(s)

Observations

4.1.5.3.1 The State Program Evaluations should be based on the type and quantities of pesticides stored at a particular storage location, hence the classification of incidental, small, and bulk storage site definitions. After reviewing the CMITS and MIS, a comprehensive audit program should be established. This 10-year plan should identify those State Offices that store and use a large quantity of pesticides. Large quantity storage states should be formally inspected by a third-party at least every three years, while small quantity storage areas should be audited no less than every seven years. Incidental storage locations should be managed and inspected by the supervisor as a routine supervisory responsibility.

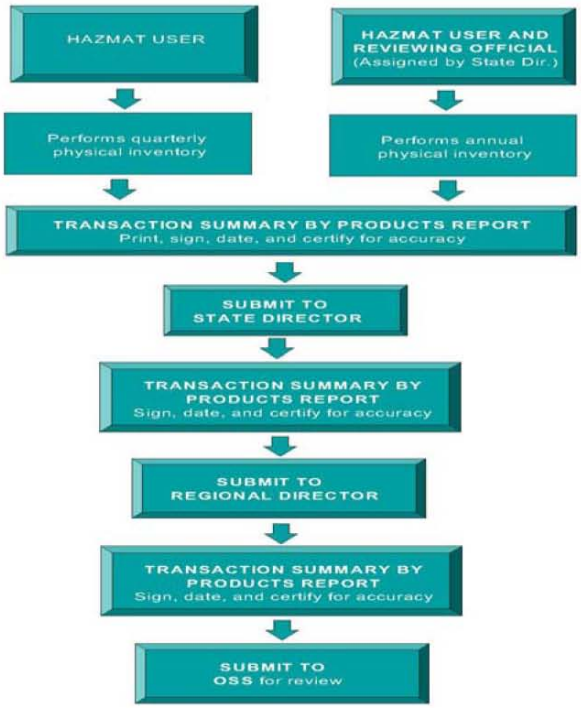
A neighboring state pesticide applicator could evaluate the inventories of his/her counterparts. Another option (depending upon the relationship between the State Director and the state pesticide regulatory agency) is to request the state Department of Agriculture inspector to include an inventory review in their annual inspection. This

would be classified as a third-party audit, and the cost would be minimized. The WS could save a great deal of money and increase cooperation with the states by developing an agreement with the individual states to inspect large quantity storage areas and provide some reimbursement to the State to cover the state inspector's costs.

4.1.5.3.2 A date table reflecting the deadlines for submittal would be useful to the responsible parties and should be included in the Directive. An example follows:

Responsible Employee	Report to	Submit NLT*
First Quarter		
HAZMAT User	District Supervisor	Saturday, March 01, 2008
District Supervisor	State Director	Monday, March 10, 2008
State Director	Regional Director	Thursday, March 20, 2008
Regional Director	OSS	Monday, March 31, 2008
Second Quarter		
HAZMAT User	District Supervisor	Tuesday, June 10, 2008
District Supervisor	State Director	Tuesday, June 10, 2008
State Director	Regional Director	Friday, June 20, 2008
Regional Director	OSS	Monday, June 30, 2008
Third Quarter		
HAZMAT User	Report to District Supervisor	Monday, September 01, 2008
District Supervisor	State Director	Wednesday, September 10, 2008
State Director	Regional Director	Saturday, September 20, 2008
Regional Director	OSS	Tuesday, September 30, 2008
Fourth Quarter		
HAZMAT User	Report to District Supervisor	Monday, December 01, 2008
District Supervisor	State Director	Wednesday, December 10, 2008
State Director	Regional Director	Saturday, December 20, 2008
Regional Director	OSS	Wednesday, December 31, 2008
* Days of the week are used in 2008 are for demonstration purposes only. Days of the week will change for 2009, 2010…		

4.1.5. 3.3. A flow chart similar to the following would clarify who is responsible for what:



4.1.6. Directive **2.601, Safety**

4.1.6.1. **Strength(s)**

The directive is clear and concise when it comes to WS employees' responsibilities for immediately reporting unsafe conditions to their supervisor and by placing the responsibility for identifying hazards prior to the work assignments.

A physician's alert wallet card was developed and given to every employee before they started their assigned tasks. The card clearly states that the employee may be exposed to serious diseases (rabies, Hantavirus, plague, Lyme disease, psittacosis, Chlamydia psittaci, or histoplasmosis) in their day-to-day activities. This card was developed so that the employees could give their physician a clear understanding of possible exposures to minimize the probability of misdiagnosis.

Employees are provided with a very proactive Occupational Medical Monitoring Program (OMMP) if they choose to participate. A pesticide applicator that applies a cholinesterase- inhibiting pesticide (carbamate, etc.) is tested before application and routinely checked during the application process. For those that require the use of a respirator, OMMP physicians can authorize the use of these respirators before the

employee is trained and fit-testing for the appropriate respirator is accomplished. This directive informs employees that they may be required to participate in the OMMP, but can decline in writing). However, refusal may be justification for reassignment, or other action. This strong statement illustrates to employee's the paramount importance that management places on the OMMP and their active participation in the program.

4.1.6.2. Weakness(es)

This Directive should be more specific to requirements as they relate to pesticide application and the use of personal protective equipment.

4.1.6.3. Recommendation(s) and Observations

Observation

The directive should identify the fact that pesticide applicators are often required to wear respirators. Before wearing a respirator, employees must receive approval from a physician that the person is fit enough to wear a respirator. In addition, the employee must be trained in the specific respirator's use and limitations, and must be fit-tested annually. Employees applying organophosphate-based pesticide, or other cholinesterase-inhibiting pesticide (carbamate) must have a baseline analysis before they start application and then periodic tests (as determined by the OMMP physician) to ensure that there is no health hazard or exposure to the pesticide. Other recommendations are made elsewhere in this report.

4.2. Evaluation of program oversight, management responsibility for compliance, and hazard communication.

4.2.1. Strength(s)

All State Directors and District Supervisors interviewed during the site-visits shared the amenable traits of complete disclosure and cooperation. It was apparent that they grasped the value of the survey. They readily and openly informed me of their responsibility and commitment to safety, described what training they felt was adequate for others, and continually emphasized their commitment to comply with existing regulations and directives. Their basic philosophy was to go beyond the regulation's requirements rather than taking a chance of not complying.

The State Directors made sure that they had the most current WS Directives in their office files system (usually a three-ring binder). One State Director received two new directives during my site visit and immediately retrieved the binder of directives from me and updated the binder with the new directives. Subsequently, he took the binder back to his office to immediately review the new directives. He also sent a copy of the new directives to his District Supervisors to ensure they updated their binders and reviewed the most current material. This clearly illustrates the State Director's commitment to timely distribution of materials and the importance he placed on reviewing materials in a timely fashion.

The State Directors required that all storage areas be, at a minimum, in full compliance with WS Directives, regardless of the quantity of pesticides. Industry storage requirements are generally based upon use, quantities, and types of pesticides. WS Directives currently hold WS to a higher standard than the industry because they require storage that is in compliance with bulk-pesticide storage. Pesticide inventories were up-to-date and accurate, with one exception, which was corrected on the spot.

All pesticide applicators are required to be State-certified. If a pesticide applicator is state-certified, the state is certifying that they have had HazCom training. This is required by FIFRA and state-specific laws. This is clearly evident when examining the Worker Protection Standard (WPS) requirements. The WPS clearly exempts state-certified applicators from the "Agricultural Workers" and "Pesticide Handlers" training because the state training programs are far more demanding than the WPS training requirements.

Although the Director and Regional Directors were not interviewed for this review, it is clear by their employee's positive attitude and clear understanding of regulations that management provides significant guidance and resources, and instills the appropriate level of importance of safety awareness to their employees.

4.2.2. Weakness(es)

If anything can be considered a weakness, it is that the District Supervisors are required to do so much office-type work (very time-consuming) to keep up with chemical

inventories and MIS reporting, and to perform storage inspections, that their ability to supervise the applicators in the field is limited.

4.2.3. Recommendation(s) and Observation(s)

Observation

A risk assessment should be performed as to the actual benefits gained by certain requirements and examine the possibility of reducing the non-essential checks and cross-checks of certain tasks that have a low impact. An example is as follows. If five grams of DRC 1339 are missing from a bottle is it more likely to have been stolen or used and recorded incorrectly? What damage could it do compared to 5 grams of sodium cyanide? There are no easy answers, but now that the DHS has identified those COI's, one should base inspections and documentation on those products. It would be far more beneficial to have a District Supervisor in the field examining how their applicator is working safely and following all restrictions on the pesticide label, rather than having them examine a storage cabinet to determine if it meets WS requirements, especially after it has already been determined to meet all standards in previous audits.

4.3. Evaluation of current training.

4.3.1. Strength(s)

All pesticide applicators are required to be certified by the State as applicators and those states that sell pesticides to customers have State Dealer Licenses. The WS requires these credentials to ensure that their applicators are following all State and local regulations, even though many are exempted by Sovereign Immunity and other State enacted laws. The willingness of WS to demonstrate its willingness to fully cooperate and interact with the State officials should be continued and encouraged.

4.3.2. Weakness(es)

Lack of written documentation of specialized training and a comprehensive training plan of requirements are weaknesses in the program.